

**ABSTRACT OF THE DISCLOSURE**

A method and an apparatus of utilizing a dynamically modifiable combination of fields in a header of an internet protocol version 4 (hereinafter IPv4) packet to classify the IPv4 packet are disclosed. In one embodiment, the apparatus includes a transceiver module and a lookup module. The lookup module is coupled to an external processor via an external processor interface, an external content adjustable memory and the transceiver module. The lookup module also contains a processing core that performs the IPv4 packet classification based on information from the external processor and information stored in the external content adjustable memory.